

Amendments to the Claims

Please cancel Claims 11-37, 49-51, and 63-83 without disclaimer or prejudice. Please cancel Claims 40 and 54, and please amend Claims 38-39, 41, 45, 47-48, 52-53, 55, 59, and 61-62 as indicated below. Please add new Claims 84-88 as presented below.

The currently pending and amended claims are below. Please amend the claims following, wherein the deleted matter is shown by strikethrough and the added matter is shown by underlining.

Listing of Claims:

Claims 11-37 (Withdrawn)

38. (Currently amended) An isolated and purified polynucleotide, encoding an acetohydroxyacid synthase (AHAS) large subunit gene ~~from a cyanobacterium, wherein the polynucleotide comprises the sequence of SEQ ID NO:6 or a sequence having at least 90% sequence identity to the sequence of SEQ ID NO:6, and wherein the polynucleotide confers resistance to an herbicide selected from the group consisting of an imidazolinone, a sulfonylurea, and a sulfanylcarboxamide.~~

39. (Currently amended) ~~An~~ The isolated and purified polynucleotide according to claim 38, wherein the polynucleotide is isolated and purified from the cyanobacterium ~~is extracted from Synechocystis PCC 6803.~~

40. (Cancelled)

41. (Currently amended) ~~An~~ The isolated and purified polynucleotide according to claim 38, wherein said polynucleotide consists of a sequence comprising ~~SEQUENCE~~ SEQ ID NO. 6.

42. (Original) A replicable expression vector comprising the polynucleotide of claim 38.

43. (Original) A nuclear genome comprising the replicable expression vector of claim 42.
44. (Original) A plastome comprising the replicable expression vector of claim 42.
45. (Currently amended) A transgenic plant produced from the transformation of a plant with the replicable expression vector of claim 42.
46. (Original) Progeny derived from the transgenic plant according to claim 45.
47. (Currently amended) ~~A~~The transgenic plant according to claim 45, wherein said transgenic plant exhibits increased resistance to an herbicide ~~herbieides~~ selected from the group consisting of an imidazolinone ~~imidazolinones~~, a sulfonylurea, ~~sulfonylureas~~ and a sulfanylcarboxamide ~~sulfanylcarboxamides~~.
48. (Currently amended) ~~A~~The replicable expression vector according to claim 42, wherein said replicable expression vector is a construct for nuclear genome transformation comprising an *Arabidopsis* AHAS large subunit promoter and transit sequence, the *Synechocystis* AHAS large subunit coding region, and an *Arabidopsis* AHAS large subunit termination sequence.

Claims 49-51 (Withdrawn)

52. (Currently amended) An isolated and purified polynucleotide encoding an acetohydroxyacid synthase (AHAS) small subunit gene ~~from a cyanobacterium~~, wherein the polynucleotide comprises the sequence of SEQ ID NO:17 or a sequence having at least 90% identity with the sequence of SEQ ID NO:17, and wherein the polynucleotide confers resistance to an herbicide selected from the group consisting of an imidazolinone, a sulfonylurea, and a sulfanylcarboxamide.
53. (Currently amended) ~~A~~The isolated and purified polynucleotide according to claim 52, wherein the polynucleotide is isolated and purified from the cyanobacterium *Synechocystis* PCC 6803.

54. (Cancelled)

55. (Currently amended) ~~A-The~~ isolated and purified polynucleotide according to claim 52, wherein said polynucleotide consists of a sequence comprising ~~SEQUENCE~~ SEQ ID NO. 17.

56. (Original) A replicable expression vector comprising the polynucleotide of claim 52.

57. (Original) A nuclear genome comprising the replicable expression vector of claim 56.

58. (Original) A plastome comprising the replicable expression vector of claim 56.

59. (Currently amended) A transgenic plant produced from transformation of a plant with the replicable expression vector according to claim 56.

60. (Original) Progeny derived from the transgenic plant according to claim 59.

61. (Original) ~~A-The~~ transgenic plant according to claim 59, wherein said transgenic plant exhibits resistance to an herbicide ~~herbicides~~ selected from the group consisting of an imidazolinone ~~imidazolinones~~, a sulfonylurea, ~~sulfonylureas~~ and a sulfanylcarboxamide ~~sulfanylcarboxamides~~.

62. (Currently amended) ~~A-The~~ replicable expression vector according to claim 56, wherein said replicable expression vector is a construct for nuclear genome transformation comprising an *Arabidopsis* AHAS large subunit promoter and transit sequence, the *Synechocystis* AHAS large subunit coding region, and an *Arabidopsis* AHAS large subunit termination sequence.

Claims 63-83 (Withdrawn)

84. (New) A method of producing a transgenic plant having increased resistance to an herbicide as compared to an untransformed wild type plant, comprising

a. transforming a plant cell with a replicable expression vector comprising a polynucleotide sequence selected from a group consisting of SEQ ID NO:6, SEQ ID NO:17, and

a polynucleotide having at least 90% sequence identity with SEQ ID NO:6 or SEQ ID NO:17;
and

b. generating from the plant cell a transgenic plant that expresses the polynucleotide sequence.

85. (New) The method of claim 84, wherein the polynucleotide sequence is SEQ ID NO:6.

86. (New) The method of claim 84, wherein the polynucleotide sequence is SEQ ID NO:17.

87. (New) The method of claim 84, wherein the replicable expression vector is a nuclear transformation vector.

88. (New) The method of claim 84, wherein the replicable expression vector is a plastid transformation vector.